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Bartender's Hand
An Unusual Form of Occupational Cumulative Trauma Disorder

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CUMULATIVE TRAUMA DISORDER, also called repetitive strain injury, repetitive motion disorder, or overuse syndrome, encompasses a spectrum of disorders that arise from the overuse of the joints and soft tissue structures of the extremities. Included in this spectrum are such diverse clinical disorders as carpal tunnel syndrome, tenosynovitis, epicondylitis, hand-arm vibration syndrome, de Quervain's disease, and the less-well-defined chronic upper extremity pain syndrome.[1] What unifies these various diagnoses is the hypothesis that repeated biomechanical stresses are responsible for tissue microtrauma, causing local inflammation, inhibiting function, and producing pain.[2]

Occupational cumulative trauma disorders have important effects on workers, their employers, and society in general. Most working adults obtain their medical care from primary care physicians, who should be able to recognize work-related musculoskeletal disorders. Failure to do so can result in substantial losses from decreased productivity, lost work time, inappropriate management, and even disability. An accurate occupational history is crucial to the proper diagnosis.

Several unusual variants of occupational cumulative trauma disorder have been described. These include endoscopist's thumb,[3] mouse joint,[4] and potato harvester's footdrop.[5] The following case report describes another atypical presentation of an occupational cumulative trauma disorder in a bartender. To our knowledge, this is the first reported case of such a disorder in this job category.

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Report of a Case

The patient, a 30-year-old left-handed man, was seen at the Yale-New Haven (Connecticut) Occupational and Environmental Medicine Clinic because of left thumb pain. The pain was located at the base of the thumb and had been gradually increasing over the previous six weeks. Movement made the pain worse. There was no accompanying paresthesia. The joints were not swollen. Occasionally the pain would be accompanied by locking of the third, fourth, and fifth digits of the left hand. No loss of strength was noted. The patient did not recall any antecedent trauma to the hand.

The medical history was unremarkable. A review of systems failed to elicit any systemic symptoms.

The patient was a bartender. His job involved the use of a beverage gun to dispense soda and water. He held the beverage gun in his left hand with the second to fifth digits curled around the base of the gun while the thumb was positioned over the trigger. By exerting sufficient pressure on the trigger with his left thumb, beverage flow could be activated. Relaxing the pressure on the trigger would stop the flow of liquid. He worked about 48 hours a week, using the beverage gun frequently throughout his workshift.

Examination of his hand revealed tenderness at the base of the proximal phalanx of his left thumb. He also had mild tenderness of the metacarpophalangeal (MCP) and proximal interphalangeal (IP) joints of the third, fourth, and fifth fingers. No nodules were felt. No joint effusion was noted. Range of motion was preserved, but there was tenderness with flexion of the MCP and IP joints of the left thumb. Grip strength was good. No sensory or motor deficits were demonstrated. An x-ray film of the hand was unremarkable.

The patient was diagnosed as having flexor tendinitis of the flexor pollicis longus, flexor pollicis brevis, and flexor digitorum sublimis of the third, fourth, and fifth digits with concomitant stress of the ulnar collateral ligament. He was treated conservatively with a nonsteroidal anti-inflammatory agent and physical therapy. Job modification was discussed with his employer, who agreed to switch him from bartending to waiting on tables. His symptoms started to resolve gradually after he stopped using the beverage gun. Six weeks after the job change, he was completely asymptomatic.

Discussion

This case depicts an unusual variant of an occupational cumulative trauma disorder. The patient's thumb pain likely resulted from repeated flexion of the thumb at both the MCP and IP joints against the resistance of the beverage gun trigger. "Locking" of his third, fourth, and

ABBREVIATIONS USED IN TEXT

IP = interphalangeal
MCP = metacarpophalangeal

fifth digits likely occurred from inflammation of the flexor tendons from repeated friction and pressure against the barrel of the beverage gun.

Other features of this case consistent with an overuse syndrome include the gradual onset, the anatomic specificity of the findings as it related to the proposed mechanism of injury, the absence of a systemic disease or other rheumatologic condition to explain the patient's symptoms and signs, and the gradual but complete resolution of symptoms after cessation of the repetitive activity.

Occupational cumulative trauma disorders can present in an atypical fashion, as this case demonstrates. To make the appropriate diagnosis, it is essential to perceive the association between repetitive stress from work practices and the resultant clinical presentation. This can only be achieved with a thorough occupational history. Obtaining the job title or general job description alone may not provide sufficient information to delineate the relationship of the patient's symptoms with specific occupational tasks.[6] It is more desirable to elicit a detailed description of those activities that may relate to symptoms. Often it is advisable to have the patient "act out" the work activity. Alternately, it might be productive to visit the work site while the patient is working and directly observe the patient's work practices. Frequently, as in this case, there are no objective tests to aid in the diagnosis. Hence, the correct identification of the problem rests on an accurate occupational history and clinical examination.

The medical management of occupational cumulative trauma disorders is often conservative, consisting of rest, nonsteroidal anti-inflammatory agents, and physical therapy. In conjunction with this regimen, an evaluation of the work site and work practices is crucial so that the appropriate ergonomic and job modifications can be instituted.

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